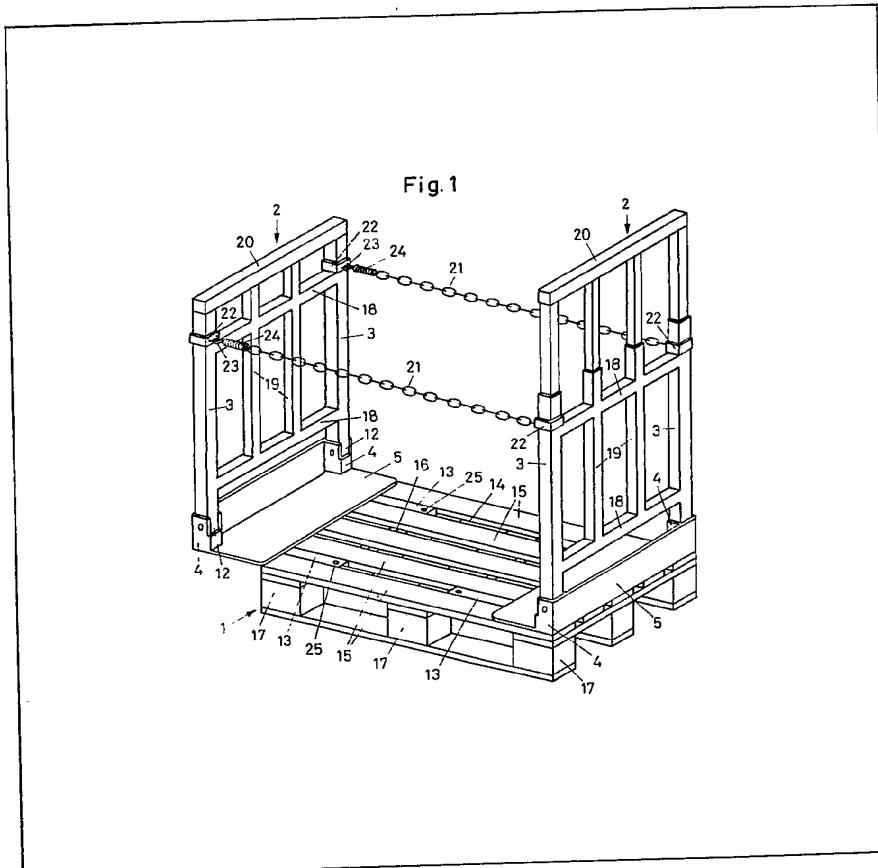


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(71) Applicants
Ferdinand Rigo,
Schaufelbergstrasse 21,
8055 Zurich,
Switzerland.
(72) Inventors
Ferdinand Rigo
(74) Agents
Eric Potter & Clarkson

(54) A transport container

(57) The transport container consists of a pallet (1) and two end walls (2) which can be folded inwards onto the bottom of the pallet. Each end wall (2) is mounted on a base section 4 which has bars (13) directed towards the centre of the pallet and guided in longitudinal grooves (14) between the boards (15) at the bottom of the pallet whereby its end walls can be moved towards and away from one another. This transport container can be adapted to accommodate the quantity of material to be loaded, which permits compact loading and protects the goods.



The drawings originally filed were informal and the print here reproduced is taken from a later filed formal copy.

This print embodies corrections made under Section 117(1) of the Patents Act 1977.

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Fig. 1

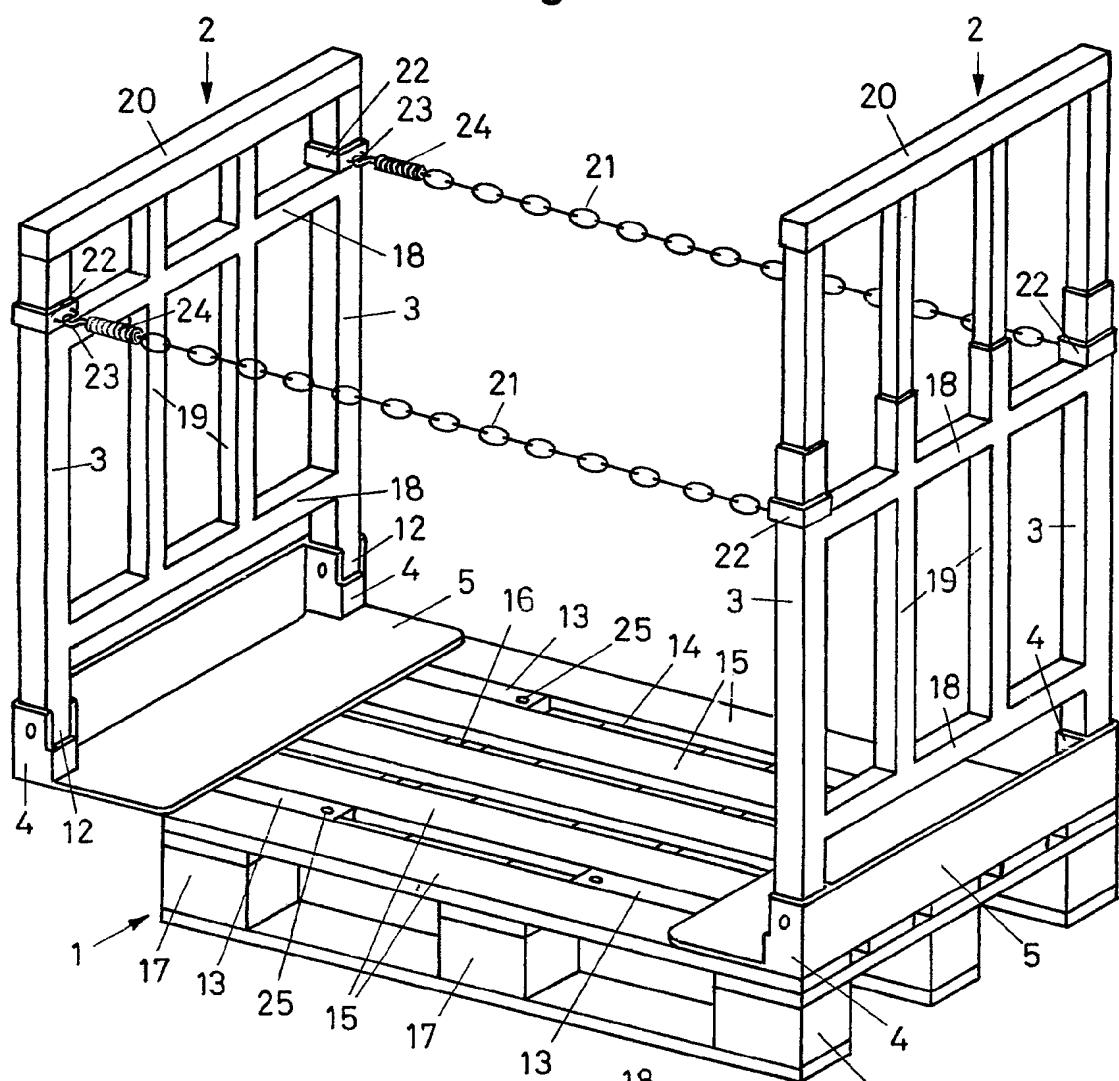
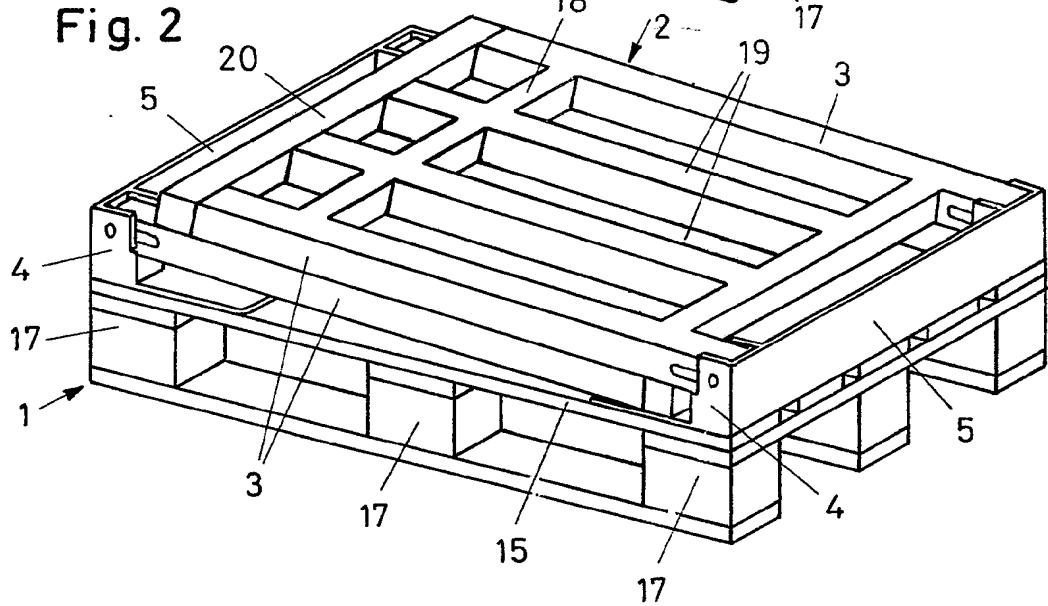
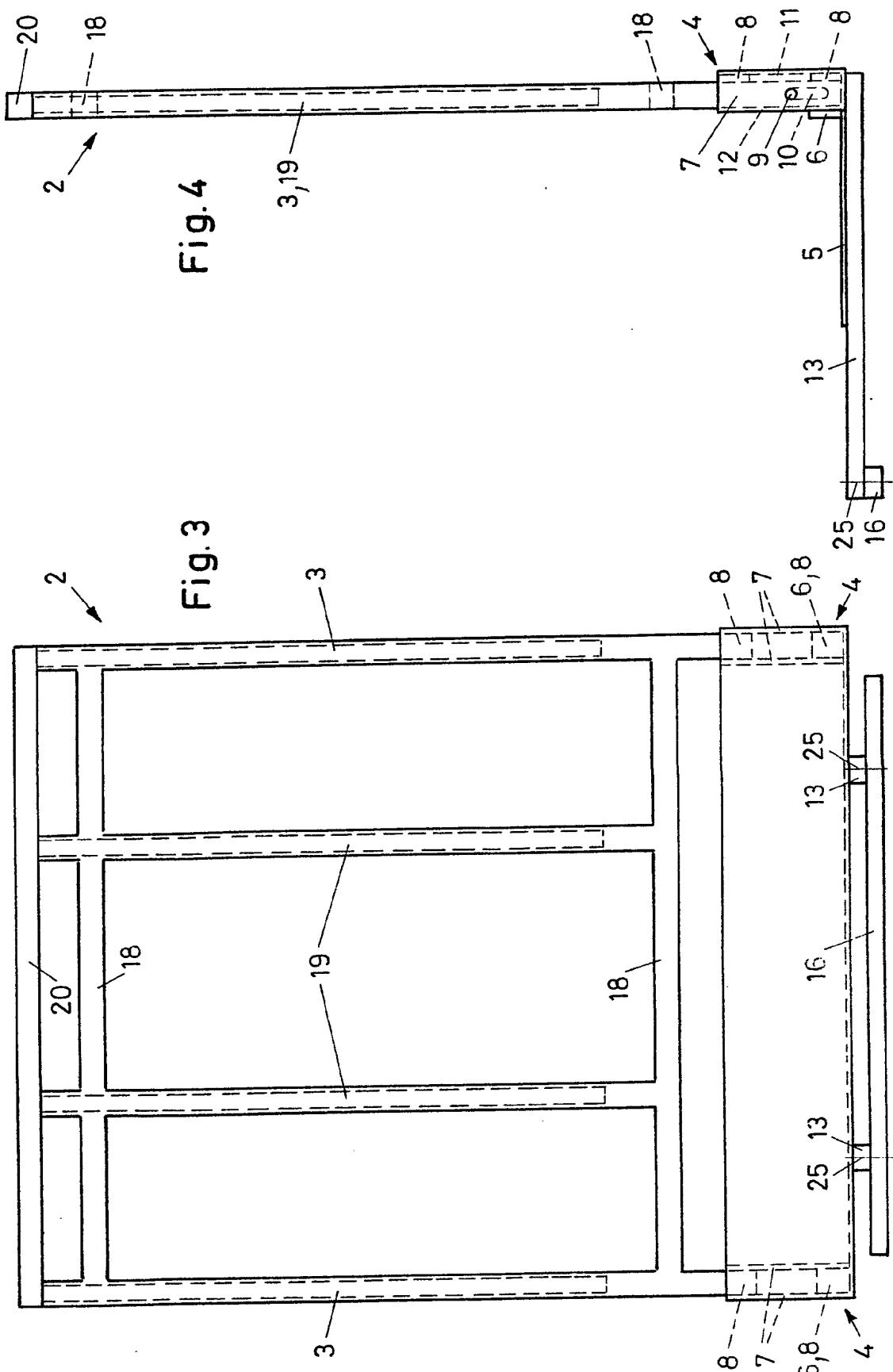


Fig. 2



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SPECIFICATION

A transport container

- 5 The invention relates to a transport container consisting of a pallet having two end walls which can be folded inwards on to the bottom of the pallet.
- 10 A transport container of this type is known from, for example, Swiss Patent Specification No. 522,538.
- 15 This container is, however, of complicated construction and correspondingly costly to manufacture. It has little flexibility in use and in particular cannot be adapted to the size of the stock to be loaded.
- 20 According to the invention, a transport container comprises a pallet and two end walls mounted thereon, each end wall being pivotally and lockably attached to a supporting element rigidly mounted on at least one bar, the or each bar being guided in a longitudinal slot in the pallet and directed inwardly of the pallet, whereby the two end walls can be folded inwardly on to the surface of the pallet and can be moved towards or away from one another longitudinally of the pallet.

The transport container according to the invention 25 can be easily adapted to accommodate the quantity of material to be loaded by corresponding movement of the end walls. By drawing the end walls out beyond the ends of the pallets, the capacity of the container can be substantially increased, when compared with conventional rigid frames, since the 30 loading area is then greater than the surface area of the pallets. To transport the containers when empty, the end walls can be quickly folded inwards by hand and without great effort. The empty containers can 35 then be stacked on top of one another or placed side by side and require only a small storage area or capacity for transportation.

In an advantageous embodiment of the invention 40 the end walls are provided with extensions telescopically mounted thereon. The height of the transport container can then also be adapted to suit the material to be loaded.

An embodiment of the invention is explained in 45 more detail below with the aid of the drawings, in which:

Figure 1 shows a perspective view of a standard pallet made of wood and having a supporting means mounted thereon;

50 *Figure 2* shows the pallet and supporting means according to Figure 1, the end walls being folded inwards;

Figure 3 shows a view of an end wall from the front side of the pallet, and;

55 *Figure 4* shows a side view of the end wall according to Figure 3.

The transport container illustrated in the drawings consists of a standard wooden pallet 1 on which is mounted a supporting means provided with two end walls 2. Each end wall 2 is made from hollow metal 60 sections having a square cross-section. However, the end wall could also be made from plastic sections. Two vertical supports 3 of the end wall 2 are pivotably and lockably connected to two base sections 4 which are designed as insert guides and 65 are in turn welded to an angle piece 5.

The base sections 4 form a guide for receiving the lower ends of the supports 3, which are inserted into the base sections 4. In this case the ends of the supports are rigidly held in their vertical position by 70 the walls 6, 7 of the base sections 4 and the two rear guide plates 8 inside the base sections 4.

Each base section 4 comprises a link pin 9 which projects into a longitudinal groove 10 in the ends of the supports.

75 The end wall 2 is folded inwards by being initially raised slightly, which can be easily done with the aid of the longitudinal grooves 10. The end wall 2 can then be folded inwards onto the base of the pallet, the said end wall being pivoted about the two link pins 9. The space 11 between the two guide plates 8 is sufficient to enable the ends of the supports to be twisted off. As a result of the end wall 2 being raised, the ends of the supports are no longer resting on the low walls 7 of the base sections 4, so that they can be 85 pivoted inwards, but not outwards, through the cut-outs 12 in the base sections 4.

Welded to the angle piece 5 are two horizontal bars 13 which project inwards towards the centre of the pallet and which are guided in corresponding 90 longitudinal grooves 14 between the individual boards 15 on the bottom of the pallet 1.

To fit the supporting means on the pallet 1 the two end walls 2 are mounted on the bottom of the pallet, the bars 13 coming to rest in the grooves 14. Each 95 cross-piece 16 is then attached from below to the front ends of the bars 13 by means of screws 25. Each end wall 2 can then be moved inwards or outwards on the pallet 1, the wooden blocks 17 of the pallet 1 forming the two end stops for the 100 crosspiece 16 during movement of the end walls and limiting the degree of this movement.

In addition to the two hollow supports 3, the end wall 2 comprises two cross braces 18 and two more vertical braces 19. An end wall extension 20 is 105 telescopically inserted into the hollow support 3 and the hollow braces 19. When being adapted to the height of the material to be transported, the extension 20 can be pulled out and locked at a specified height by means of, for example, locking pins or 110 stops. In the present embodiment the normal loading height is 100 cm and the loading height with the end wall extension fully extended is 180 cm.

With a simple pushing movement the end walls can be adapted to suit the material to be loaded, 115 which is highly advantageous particularly in the case of mixed material. In the present embodiment, the end walls can be drawn outwards by as much as 25 cm beyond the ends of the pallets, thereby increasing the loadable area of the bottom of the container 120 relative to the area of the bottom of the pallet. As soon as the pallets are subjected to loading, the material loaded thereon exerts a pressure on the end walls. This pressure causes the front ends of the bars 13 to be drawn upwards, which in turn presses the crosspieces 16 against the undersides of the boards 15 of the pallet. The end walls 2 are thereby locked in their respective positions.

Chains 21 can be provided as a lateral support for the material to be transported, the chains being 130 attached to the supports by means of rings 22,

thereby enabling the height of the chains to be varied. The free end of each chain comprises a hook 23 which, when tensioned, can be suspended in a chain link of the oppositely lying end wall or in the 5 actual end wall. A spring 24 is advantageously provided between the fastening end of the chain 21 and the ring 22 to ensure that the chain can be resiliently tensioned.

In short, the transport container described above 10 has many advantages.

It can be manufactured relatively cheaply and simply and mounted with ease on a pallet, for example an SBB standard pallet. For this purpose only the end walls are mounted on the pallet and the 15 crosspieces screwed to the ends of the bars.

The transport container is very compact when empty. The side pieces can be easily collapsed without great effort and the empty containers can be stacked on top of one another or side by side. Their 20 space requirement is small during either transportation or storage.

Infinitely variable adaptation of the container to the quantity of material to be loaded is achieved as a result of the end walls being movable. The container 25 loads are then compact and the goods are protected during transportation. The height of the container can also be adapted to suit the material to be loaded. The transport container is very stable owing to the clamping effect of the crosspieces during loading.

30 The container is designed for convenient working and permits efficient handling.

Additional fittings can also be provided for different uses. Thus it is possible to fit side bars between the end walls to improve lateral support of the 35 material to be loaded. For the transportation of skis, bicycle, clothing and the like, suitable supports can be attached to the end wall extensions by hooks, crosspieces, shelves, and the like, the height of the said additional fittings being adjustable in any 40 desired manner. This is an indication of only a few of the possible ways in which the transport container can be developed for versatile application by the use of fittings.

45 CLAIMS

1. A transport container comprising a pallet and two end walls mounted thereon, each end wall being pivotally and lockably attached to a supporting 50 element rigidly mounted on at least one bar, the or each bar being guided in a longitudinal slot in the pallet and directed inwardly of the pallet, whereby the two end walls can be folded inwardly on to the surface of the pallet and can be moved towards or 55 away from one another longitudinally of the pallet.
2. A container according to Claim 1, wherein each end wall has two support members, and the supporting element is an angle piece having a support guide at each end thereof, each support 60 member being inserted in a respective support guide.
3. A container according to Claim 2, wherein the lower end of each support member comprises a groove into which a link pin of the support guide, 65 whereupon the support member can be pivoted

about the pin.

4. A container according to Claim 1, 2 or 3, wherein for each end wall a crosspiece is detachably connected to the free end of the or each bar from

70 below, the crosspiece being arranged below the boards defining the surface of the pallet so as to press against and grip the boards when a force is exerted outwardly on the end wall by the material being loaded.

75 5. A container according to any preceding claim, wherein an end wall extension is telescopically connected to each end wall.

6. A container according to Claim 5, wherein each end wall extension can be locked in a plurality 80 of extended position relative to the end wall by means of stops or pins.

7. A container according to any preceding Claim, wherein the support members are provided with rings to which chains are attached to provide a 85 lateral support for the material to be loaded.

8. A container according to Claim 7, wherein at least one end of each chain is provided with a spring and a hook is fixed to the spring.

9. A container according to any preceding claim, 90 wherein each supporting element is rigidly mounted on two or more bars.

10. A transport container, substantially as described herein with reference to or as shown in the drawings.

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